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ABSTRACT

Intended to describe an ideal system for William Madison Randall Library at the University of North Carolina-Wilmington, this outline presents specific system requirements that would build on and enhance features available on the current system while moving toward a truly integrated system with built-in possibilities for expansion and improvements in the future. It is noted that the Ad Hoc Committee on System Requirements views migration as an opportunity to take full advantage of both existing and potential software capabilities. The first of 11 sections covers what are considered to be absolute essentials for a new system that would provide connectivity and interconnectivity, opening the online catalog system to departmental, campus, state, national, and international resources. The topics covered include standards, database conversion, system management, training and documentation, and handicapped access. The remaining sections focus on: (1) types of databases that must be integrated into one (public access catalog, circulation system, reserve system, cataloging system acquisitions, serials system, mail function, locally mounted databases, interface with off-campus systems, interlibrary loan, report functions, and online tutorial); (2) types of search access points; (3) search key characteristics; (4) screen characteristics; (5) printing options; (6) circulation; (7) reserve; (8) cataloging; (9) acquisitions; and (10) serials. (BBM)

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OUTLINE OF STANDARDS

FOR MIGRATION

TO INTEGRATED ONLINE SYSTEM

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OUTLINE OF STANDARDS FOR MIGRATION TO INTEGRATED ONLINE SYSTEM

Many libraries today are in the process of migrating from an online public access catalog system to a totally integrated online library system. In the process of selecting a new system, it is helpful to have an outline of specific system requirements to offer to prospective vendors. What follows is the report of an Ad Hoc committee given the charge of developing such a list of standards.

In developing an outline, the committee feels it is important not only to maintain and enhance features available on the present system, but to move toward a truly integrated system with built-in possibilities for expansion and improvements in the years ahead. We view migration as an opportunity to take full advantage of existing and potential software capabilities.

Our goal in compiling this report is to describe an ideal online system for this university. The system to meet all these requirements may not exist at this time, and if it did the expense of implementing all parts at once would likely be prohibitive. The committee is aware that trade-offs will be necessary. But we feel it is important to set standards high and to include features we know are possible, if not currently available, creating a system powerful enough to serve present and future needs. We also feel that co-development, with the vendor, of features not presently offered is important not only for our new system but for other libraries who will benefit from enhanced software.

The first section of the outline covers what we consider absolute essentials of a new system or "musts." Besides the basic standards for library applications listed, the most important overall feature of any new system is connectivity and interconnectivity, opening the online catalog system to departmental, campus, state, national, and international resources. We have seen this capability in existing online systems and we feel it is the most essential aspect of the outline. The justification for this feature is well covered elsewhere in the literature.

Ad Hoc Committee on System Requirements
Celeste Millen, Chairperson
D. Ron Johnson
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SYSTEM REQUIREMENTS
INTEGRATED ONLINE SYSTEM

I. BASICS ("MUSTS")

A. STANDARDS

1. NISO Z39.50 Standard for searching bibliographic information
2. NISO Z39.2-1985 MARC format
3. ANSI RS-232C for serial communications
4. TCP/IP for remote network sessions
5. SMTP or X.400 for electronic mail service
6. X.12 and X.22 Standards
7. Connectivity and interconnectivity, especially with University System, including but not limited to:
   a. Selection of resources from menu
   b. Patron data exchange
8. Must have terminal/printer handlers for many types of terminals/printers
9. Must interact with current vendors
10. Transfer to other systems transparent to user and executed with simple command such as selecting a number or an abbreviation

B. DATABASE CONVERSION

1. Accept Library's current tapes and support format integration including records without full MARC data
2. Database must be fully loaded and the OCLC interface for ongoing input of bibliographic data must be operational before performance testing begins
3. Must be able to operate two systems during changeover
4. All item records must be loaded including link to existing barcodes
5. Willing to mount Library's tapes as a test run of system
6. Must be able to write MARC tape of bibliographic/item holdings

C. SYSTEM MANAGEMENT

1. Profile maintenance - able to
   a. Locally define defaults
   b. Add/Edit/Delete screens
   c. Define/change port parameters
   d. Define/change loan periods and other time functions
   e. Define/change fines and fees
   f. Define/change patron categories
   g. Define/change location hierarchy
   h. User interface able to be set/changed with user ID
2. System security
   a. Allow varied levels of access with security, including read-only, override, etc.
   b. Include a function to allow change of user without logoff/logon
   c. User add/edit function allows for subfunction locks and other means of system security, both at systems level and applications level
   d. Able to limit users to OPAC only or OPAC and selected features and to deny access to restricted databases
   e. Autologon for OPAC only users
3. Real-time updating of all functions
4. Handle large retrieval sets

5. Maintain quick response time
6. Minimum of down time
7. Backup data files which can be easily reloaded
    a. Backup procedure allows for incremental backups and does not require a full copy be made daily
8. Bidder must guarantee software enhancements to accommodate future OCLC/MARC changes in format or display of bibliographic records
9. No situation requiring <Break> key depression as a command
10. Input is case (lower/upper) nonspecific
11. Cursor control keys operable in all applications
12. Incorporate automatic system caretaker (watchdog) to logoff inactive jobs, record/archive logon errors, application errors, system errors, etc.

D. TRAINING AND DOCUMENTATION
1. Can be learned quickly without a manual
2. Supply complete, up-to-date technical and user documentation, including documentation updates
3. Provide training and training database access
4. Provide 24-hour support

E. HANDICAPPED ACCESS
1. Zoom capabilities
2. Audio input/output
3. Braille printer option

II. TYPES OF DATABASES WHICH MUST BE INTEGRATED INTO ONE

A. PUBLIC ACCESS CATALOG
1. Central catalog in library
2. Dial-in access
3. Must support fiber optics and ethernet connections

B. CIRCULATION SYSTEM - see Section VII

C. RESERVE SYSTEM - see Section VIII

D. CATALOGING SYSTEM - see Section IX

E. ACQUISITIONS - see Section X

F. SERIALS SYSTEM - see Section XI

G. MAIL FUNCTION
1. Link between mail and other applications to allow output from search to be sent to e-mail address
2. Interfaces with Bitnet/Internet; able to telnet
3. Be able to insert file as text of message, using Kermit, ASCII, XModem, etc.
4. Create/maintain distribution lists
    a. Public lists accessible to all users with mail accounts
    b. Private distribution lists
5. Create mail shell (WAIS)
6. Z39.50 client server available

7. Be able to load LIBTEL or HYTELNET for remote logon to Internet sites
8. Be able to FTP
9. Allow for files, folders, etc.
10. If logged on with a user ID authorized for mail, be able to enter mail system directly from library subsystem with no additional logon
11. Alert user when new mail has arrived, even when not in mail subsystem; option to toggle this feature
12. Users without mail accounts can enter suggestions or comments
13. Authorized users may enter order requests or ILL requests on locally designed format
    a. Form must include locally defined required fields
    b. Form automatically forwarded to proper recipient
    c. Form would refuse to advance unless required fields are completed (data dictionary valid information)
    d. Easy cancellation of request at any point

H. LOCALLY MOUNTED DATABASES (preferably using same search engine as OPAC)
1. Campus information
2. Commercial indexes and abstracts
3. CD-ROM servers
4. Full-text databases
5. Locally produced databases such as bibliographies, archive indexes
    a. Accomodate large files
    b. File records can be edited, added or deleted
6. Hypertext and expert systems

I. INTERFACE WITH OFF-CAMPUS SYSTEMS (preferably using same search engine as OPAC)
1. Other library systems
2. Commercial vendors
3. Bibliographic utilities (OCLC)
    a. Upgrade to PRISM

J. INTERLIBRARY LOAN FUNCTION (monitored)
1. Copyright Clearance capability
2. Able to capture bibliographic data from any database and put into ILL request form

K. REPORT FUNCTIONS
1. Not separate software
2. For all modules
3. Report writer which allows compilation of any data gathered by computer, limited and sorted by individual specifications; method for saving or importing a report writer program once it has been determined to work
4. Bidder will describe reports available in addition to those mentioned specifically
5. All statistics must be maintained online for a minimum of two years to allow for comparison with at least one previous year
6. Reports must be available on at least a monthly, fiscal year, and fiscal year-to-date basis

L. ONLINE TUTORIAL

III. TYPES OF SEARCH ACCESS POINTS

A. CONTROLLED ACCESS POINTS

1. Personal and corporate names, uniform titles, conference names. (all 1xx MARC fields)
2. Titles (all title fields MARC 24X, 4XX, 8XX, 7XX)
    a. Search either 245a or a&b
    b. Search series
    c. Search series title authority
3. Publisher/date (260b and 260c fields)
4. Notes/summary fields (all 5xx MARC fields)
5. Subjects, including personal and corporate names, topical, chronological and geographical subdivisions (all 6xx MARC fields)
6. Added entries including analytic entries, names, etc. (all 7xx MARC fields)
7. Call numbers (050-099 MARC fields)
    a. 086 field separately searchable
8. Numerical control numbers including but not limited to call number, ISBN, ISSN, SuDocs number, technical report number, LC card number, GovDoc Item Number, OCLC number (appropriate tag depending on format)
    a. All call numbers in shelflist order
    b. Able to limit call numbers by location
9. Location
    a. More than five locations and able to add locations later
    b. Searchable and limitable by location
10. Material type including but not limited to monographs, maps, microforms, audiovisual formats, scores, Gov Docs, serials, machine readable data files, computer software
    a. Import existing MTY tags into new system as searchable fields
11. Use initial article stop-list for indexing purposes in all MARC tags and fields

B. FIELD SEARCHING

1. Must be able to search record fields with mnemonic codes including but not limited to:

AU	Author	MP	Music Pub Number
AT	Author/Title Key	FC	Fac/Course Reserves
CU	Call Number	ON	OCLC Number
CN	Conference Author	PN	Personal Author
CR	Corporate Author	RN	Report Number
FA	Faculty Reserves	SE	Series
MF	Format of Music	SR	Series Authority
SD	Govt. Docs Number	CC	Software/Hardware
IB	ISBN	SU	LC Subj Hd or Subdv
IN	ISSN	SJ	LC Subj Hd Only
JT	Journal Title	SF	Subj.-Conf Author
KW	Keyword	SC	Subj.-Corporate Author
LA	Language	SN	Subj.-Personal Author
LC	LC Card Number	SV	Subj.-Uniform Title
MT	Material Type	TI	Title
MC	Musical Comp Type	UT	Uniform Title
NI	Music Inst/Voice	DI	Dept/Course Reserve
PU	Publisher	YR	Year

C. KEYWORD SEARCHING - all MARC fields and tags (including 300a, 300b, and 250)
   1. Controlled access and keyword/Boolean access in same engine

D. DERIVED KEYS made up of a combination of letters from the author and title or other elements of the entry

E. BROWSING available on any type

F. SUBSET of last 10 years as option available for searching

G. COMMAND LANGUAGE CARRYOVER between OPAC and other databases

IV. SEARCH KEY CHARACTERISTICS

A. BOOLEAN SEARCHING
   1. Including and, or, not, near, with, adj operators
   2. Complex Boolean logic using nesting and previous set numbers
   3. Keyword searching possible on all fields
      a. Can be field restricted
   4. Keyword incudes multiple term searching
      a. Multiple word default is adj
   5. Boolean search allowed with controlled searching

B. TRUNCATION
   1. Search by full or partial search keys (automatic truncation)
   2. Left- and right-hand truncation as well as internal or imbedded truncation or wildcard
   3. Show all words included in truncated stem with option to repress this display

C. LIMITS
   1. Limit by year or range of years of publication, language(s), format(s), location(s), or any combination of these
      a. Location includes but not limited to General Collection, Gov. Docs, Ref, Reserve, CMC, AV, Rec, Special Collections
   2. Limit by specifying the indexes to be searched in controlled access or keyword in particular fields
   3. Limit can be done in first step
   4. Limit to exact title with":" or other symbol
   5. Allow wild card symbol in limits (i.e., 196* or video*)
   6. Limit by using NOT operator (i.e., not English language)
   7. Exact examples of limits given when listed
   8. LIMITALL command option to set rest of session, (i.e., LIMTALL/ENG)

D. COMMANDS
   1. Stacking of commands possible
   2. Command language shall be mnemonic, easy to understand and remember, consistent, and designed locally
      a. Use of = sign or space preferable
   3. New comand clears out the old without having to erase old or left-over letters
   4. Disregards punctuation and spaces or allows either if desired
      a. Translates symbols to spelled out equivalent and vice versa

5. Prompts user when ready for input
6. Requests confirmation before executing a costly, possibly damaging, or lengthy operation (especially on passwords with power to alter data)
7. Type-ahead buffer with on/off capabilities controlled by user
8. Able to turn off error beep in public areas

E. SEARCH STRATEGY
1. Possible to display a search strategy history and number of hits retrieved by each term
2. Possible to save a search strategy and execute it in another database accessible on this system or for duration of search session
3. Possible to suspend a potentially long search at a predetermined point and provide the user with options to narrow, terminate, examine a portion of the hits, or continue the search
4. Possible to search related subject terms or added entries or authors from any point
    a. Possible to backtrack to original subject with one key
5. Possible to use set numbers as search terms later in strategy
6. If search retrieves no records, system shall provide help screen option giving possible reasons for no match and alternative search strategies, including contacting librarian for assistance
    a. Word approximation on misspellings, closest hit
        1. Show entries above and below term entered with term entered clearly marked in center
        2. Able to scroll forward or backward in list
        3. Option for help screen to explain subject searching
    b. Automatic synonym checker
    c. Available from all modules
7. If stop-word list is transparent, the system should inform the user of stop-listed words so future searches may be better formulated; option to rerun without stopword
8. Option to browse/search items close-by on shelf

F. SUGGESTIVE PROMPTS TO BROADEN A SEARCH (no match/zero postings)
1. See alsos and related terms suggested; ability to move directly to related term offered
2. Automatic truncation/manual truncation
3. Automatic uppost to next broadest term in hierarchy if search fails, with explanation given

G. SUGGESTIVE PROMPTS TO NARROW A SEARCH WITH HIGH POSTINGS
1. Suggest entering Boolean operators ("and" other terms)
2. Suggest use of limits: type of material, year, language, location
3. Suggest use of subdivisions
4. Display related terms, suggest be more specific - ability to move directly to related term offered
5. Suggest area to browse in stacks

H. SUBJECT HEADINGS
1. Online subject guide including a class number common to majority of books assigned to that heading to suggest browsing in an area of the stacks
2. KWIC index of LCSH
3. Display of all subject headings beginning with word(s) entered
4. Able to search all LC subdivisions and link to subject heading

5. Able to access authority file either online or with access to CD authority file
6. Able to get a display of all subdivisions used with a 600 field as an option or when truncating a subject (United States *)

I. CALL NUMBER
1. True shelf list order on call number search
2. Limit to location in call number search can be done in one statement
3. Column justified; sequenced as on shelf
4. Ability to define several types of call numbers
5. Separately indexed/searchable 086, 099, 050/090 fields
    a. Ignore spaces in call number search on these fields

J. BREAK
1. Possible to stop any function with command

K. CLEAR
1. Possible to clear the system for a new session through the use of a begin or clear key command
2. If inactive for a predetermined period of time, the screen will clear automaticaly to a user-determined interface screen

L. MISCELLANEOUS
1. System should have windowing capability with colors
    a. Windowed-in calculator and personal scheduler
2. System should have graphics capability with colors
3. System should have sound capability
4. System should have capability to display table of contents and/or indexes of books if made available
5. System should have touch screen capability

V. SCREEN CHARACTERISTICS

A. WELCOME SCREEN
1. At beginning of a session, system should present brief opening message describing system, provide help, and a menu of search options including option to override prompts and use experienced mode
2. Lessons available for basic access points and types of searches including but not limited to: How to use a terminal, how to search by author, title, subject, keyword, call number, etc.; stop words; browsing; Boolean searching; use of qualifiers; dial-up access; access to other catalogs or databases
    a. These lessons available through opening screen, help messages, or tutorial available online
    b. Lessons can be vendor supplied and/or Library developed/modified
3. Screens should be as simple and uncluttered as possible
4. Text of all messages should be clear, concise, easily understood, courteous, and approved by designated Library personnel

B. DISPLAY FORMAT
1. System will provide clear prompts to user at each step with option to bypass menu
    a. System tells user what it is doing

b. Menus may show results, options, or both

2. Local editing of all prompts and help screens
3. Display of record should allow for short, full, or citation format but must include location, call number, status
    a. Allow display of full MARC record from all terminals
    b. Physical description should be on all maps and other nonbook items
    c. Allow for choice of bibliographic format in citation display (APA, MLA, etc)
    d. Allow for choice of word processing format in download
    e. Option to display-in-context in full text files
    f. Able to suppress some fields in MARC record; can be defined for each application
    g. Display of multivolume set would display by call number order rather than location
4. Essential information needed to locate material should be set off in box on screen
5. Status of item is given including on-order interface with Acquisitions module or holdings of indexed journal, checked out, not checked out, lost, bindery, et.al.
6. Repeat of command given on reply screen
7. Keyword search reply offers choice of hits in author, subject, title, notes, other fields, and all combined
8. In term list display, first item includes all below (upposted)
9. Display titles in reverse chronological order
    a. Allow display of full record from title list
    b. Allow display of next full record from list without returning to list screen
    c. Allow display of full records to continue whether number has appeared on first screen of list by title or not
10. Each screen has descriptive title at top so user will know where they are
11. Entries should be in upper and lower case, well spaced, not all caps

C. HELP SCREENS

1. Windowed-in help screens readily available at all times without losing place in search
2. Clear explanations and examples of each help topic
3. Some help/guidance keys constant at bottom of screen
4. Minimum or no use of abbreviations in help screens
5. If "Divide Overflow" happens, problem is explained in common terms to user and suggestions made to continue
6. Clear at all times how to exit or backtrack
7. "At-point" help screens in keyword searching as well as controlled

D. RECORDS

1. MARC record accessible from any bib or item record and from all terminals
2. Possible to request both full and partial records
    a. Able to see note or contents field on request (set contents on)
3. Display of record should be in labeled format easily understood by patron
    a. Records should be in reverse chronological order, then alphabetical by title
    b. Patron should be able to chose fields to be displayed or accept default

4. Journal dates very clear on holdings, starting date
    a. Tied to serial control record, tells latest received, when next issue expected
5. Microfilm/fiche should say specific form, not simply microform

E. ERRORS
1. Error messages shall be clear, courteous, and relevant to step at which error occurred
2. Explain exactly what error was
3. Offer option of additional information or suggestions
4. System offers closest match if no match
5. Retains point of progress when user errors or requests specific help, as well as way to backup and recover

F. MOVEMENT THROUGH SCREENS
1. Possible to browse forward and backward in screens
2. Access to previous command by up-arrow or command
3. Possible to move forward/back in multiple screens to specific page

VI. PRINTING OPTIONS

A. Possible to print immediately from screen to locally attached printer
1. Print command resident in software, not a shift/printscreen

B. Possible to print results to remote printer

C. Possible to save search and results to download as a unit or bibliography
1. Possible to have downloaded file sent to e-mail account

D. Scroll mode option for downloading to PC

E. Citation format option to save/download (see V.B.3.c. and d.)

F. Capability to extract data for transfer to another system

G. Possible to set limits on print or download
1. Possible to limit number of citations or lines printed as a result of a single search argument
2. If limit reached, patron informed of options
3. Limits set on printing locally if remote printing would speed process or free up use of terminal
4. Limits set so user is unable to download entire CD or database

H. Spooler available to free up screen when printing

VII. CIRCULATION

A. LOCALLY DEFINED PARAMETERS
1. Also location defined (CMC, Reserve)

B. MULTIPLE LEVELS OF SECURITY, password specific
1. Possible to change functions with additional security codes rather than exiting and reentering database

C. ACCEPTS OUR BARCODES, including those with "*"
   1. Able to generate unique barcode # (perhaps with final digit "*") for items or patrons not previously assigned

D. CIRCULATION FUNCTIONS
   1. All circulation functions real-time
   2. Throughout circulation subsystem, patrons and items must be able to be identified by various search keys, in addition to identification by barcode number
   3. Must be able to use barcode readers or input data on terminals
   4. CHECK-OUT
      a. Check-out produces date due slips including date and hour for loans of less than 1 day
      b. Must calculate due date from circulation matrix and assign a default due date
      c. Must allow "fixed," "end of term," and "indefinite"due dates
      d. Allow for building use only (today as date due)
      e. Able to define loan periods by patron category, by location, and by circulation category
      f. Date due slip must be on fan-fold paper on parallel printers attached to circulation terminals and not longer than 4 inches
      g. Must look for blocks on each check-out (fines/fees threshold, non-circulating, number of items checked out limit, at or near expiration date, etc.)
      h. Must provide for overriding blocks, for changing system supplied due date, for adding messages to patrons or items, and adding/editing bib/item records and patron records within the check-out function
      i. Must identify items without barcodes on them at check-out via full staff search capabilities (TK, AU, AT, Call number, SuDocs number, etc.)
      j. Patron record at check-out shows outstanding fines which may then be received and access given to complete fine/fee record from first screen
      k. Item on hold for person can be checked out to that person without rekeying by accepting default of yes
   5. CHECK-IN
      a. Sets status to "not checked out"
      b. Automatically calculates fines on overdues and posts charges to patron's account
      c. Able to change check-in time from actual time to one in the past
   6. RECEIPT CHECK-IN
      a. Automatically prints receipt with patron name and titles of items returned, with a date stamp for time of return
      b. Must perform all normal check-in functions
   7. RENEW
      a. Calculates new due date
      b. Capable of renewing entire list from prompt on first screen, even if list of items to be renewed is longer than one screen
      c. Automatically blocks renew of items at check-out limit or on hold
      d. Looks for same blocks as check-out function, and allows for same overrides
   8. SHELF allows recording of in-building use of materials

9. PATRON REGISTRATION
    a. Patron registration must have automatic feature by tape or be interactive with Information Associates SIS and HRS running under VMS on Dec VAX machines
    b. Allow online, in-house, interactive registration of patrons, one patron at a time
    c. In-house patron registration questions must supply defaults for selected fields, library defined and library edited
    d. If one question needs to be changed, must be able to go to it, make change, and file, without "returning" through fields not needing change
    e. Automatically add current fee for non-university borrower when added as new patron
10. ADD/CLEAR CART
    a. Allows check-in to cart (which can be overridden), transfer of items to cart, maintenance of hold carts at various locations, clearing individual items or entire cart to original owning location
11. PATRON DELETE
    a. Allows manual deletion of patrons
    b. Deletion is blocked if patrons have items checked out, or if they owe money, or if they have items on reserve
    c. System automatically deletes expired patrons after library defined interval
12. MAIL OUT
    a. Prints mailing labels based on patron questions/mailing address matrix for patrons
13. PATRON STATUS
    a. Shows name/address information, messages, check-outs, and fines/fees information for each patron
14. PATRON ACTIVITY
    a. Displays patron fines/fees and messages, and presents a brief list of items in circulation
    b. List of items checked out, on hold, or booked by patron accessible to patron by entering user ID
15. ITEM STATUS
    a. Displays circ cat, location, call number, title, circulation data (# of circs this year, # of circs since system installed, date created, date of last use), current status, and ability to view messages and other copies/volumes of the title
16. HOLD
    a. Allows patrons to place holds on items in circulation
    b. Produces hold message at check-in including name, contact information, and notify subfunction which allows immediate notification or generation of available hold notice
    c. Allows automatic recall of items placed on hold
    d. If items become lost, must send patron an "Unavailable Hold" notice
    e. Shows pick-up-by date, and generates report for removing items not picked up from hold shelf
17. PULL
    a. Allows input of items to be pulled from shelves
    b. Includes option for patron name, if pulled for patron, or for message, if being pulled for other purposes

c. Print subfunction must produce list of items to be pulled, arranged by absolute location and call number

18. RECALL
    a. Allows staff to recall items in circulation for holds or for other library needs
    b. When checked in, recall banner and message should display; once displayed, banner and message are deleted
19. SET STATUS
    a. Allows manual setting of status to any the system allows (on order, at bindery, not checked out, patron lost, etc.)
    b. If status is set to damaged or lost/patron lost, must be able to automatically post charge for damage or replacement cost to patron's account
20. HIERARCHY
    a. Displays the hierarchy of potential materials locations in the system
    b. Must be able to access list from any alphabetical and hierarchical point
21. MESSAGE
    a. Allows adding patron or item message, free form, at least three lines
    b. Message must display every time a patron or item is identified in the system
    c. Item messages must display in the online catalog
22. PATRON FINES/FEES
    a. Allows viewing, modifying, adding, editing, or paying fines/fees
    b. MUST print receipt for any monies collected, giving name of patron, system generated receipt number, date, and detailed list of items/amounts paid
    c. Items checked in overdue must automatically calculate fine and post to patron's account
    d. Must interact with notice generation program to allow invoicing for fines/fees, and allow generation of report of accounts receivable for auditing purposes
23. TRANSFER
    a. Allows temporary or permanent transfer of an item from one location to another
    b. Able to change circulation matrix information at time of transfer
24. LOCATION HOLDING
    a. Displays a summary of titles and volumes in the database, items in circulation
    b. Will display a detailed list of items, including call number and status for any location in the hierarchy
25. BOOKING
    a. Allow booking of reserve and AV materials, equipment, and rooms
    b. Allow booking for more than one item for one patron
    c. Allow multiple bookings on single item
    d. Allow locally defined default booking period
    e. Disallow loans for times when booked
    f. Disallow duplicate booking
    g. Disallow booking beyond calendar defined operating hours
    h. Limit booking by locally defined criteria including but not limited to patron category, location, circulation category,

and material types

i. Able to book in-use items for period only after date due
j. Produce booking reports limited or sorted by hour, day, week, month, date, or range of dates
k. Produce booking reports (print or view only) limited or sorted by patron, item, place, or equipment
l. Print or electronic notice can be sent to patron confirming booking
m. Allow online booking by authorized users

E. OVERDUE FUNCTIONS
   1. Must generate a list of overdue items in absolute location (not branch) order by absolute call number so shelves can be searched before overdue notices are sent
   2. After locally defined period of days status changed to lost and patron is automatically billed cost of book plus fees/fines

F. ITEM TRACKING
   1. Status of item must show on record (date due, not checked out, patron lost, lost, bindery, etc.)
      a. Lost book show reordered date; if book not available, record deleted from catalog and moved to Acquisitions OP/desiderata file
   2. Item history available by check-out, shelf, renew, defined by range of dates

G. PATRON RECORDS
   1. Patron must be able to be identified by barcode, by alternate ID#, and by name throughout system
   2. Kept 3 years in archive file if not currently active
   3. Additional patron categories must be able to be added after initial profiling
   4. Patron record can be edited by selected field
   5. Automatic 30 day warning period prompt when time to renew

H. ACCOUNTING RECORDS
   1. Tied to campus financial system
   2. Profiled not to apply fines of less than a locally defined, variable amount
   3. Profiled not to send bills of less than a locally defined, variable amount
   4. Provide audit trail including full accounts receivable package
   5. Daily summary of cash transactions
   6. Provide method for balancing cash drawer
   7. Print receipts with default of yes to print
   8. Print list of patrons with outstanding debts
   9. Interface with Information Associates FRS/SIS programs running under VMS on Dec VAX equipment
   10. Keep records three years

I. NOTICE GENERATION
   1. Capable of producing notices for fine/fees, overdues, recalls, available holds, unavailable holds
   2. Notices may be set by patron category or branch
   3. Notices must have capability of different return addresses for each branch

4. Notice text must be capable of being edited by number for each patron category and each branch
5. Number of notices (fines/fee, overdues, recalls, available holds, unavailable holds) must be able to be set by patron category and each branch
6. Patron access file must hold more than three separate addresses for each patron category

J. INVENTORY CONTROL
1. Allows use of portable barcode reader for wanding each item on the shelf in the area to be inventoried
    a. This data should be uploaded to system, indicating start and stop point in inventory session
2. System would generate inventory error reports which would:
    a. Indicate which books in the inventory area are misshelved
    b. Provide a list of items (which can be sorted on various data elements, such as author, title, call number, barcode number, status, etc.) not-on-shelf, indicating the reason, such as checked out, patron lost, lost, or unidentified by inventory procedure
    c. Provide a list of item barcodes, indicating their location between two known items, that inventory identified but that are not in the database
    d. Produce periodic reports of items not on shelf to be used for additional searching
    e. Interface with acquisition system so that reorders/replacements of lost items can be automatically generated using bibliographic information from the database
    f. Maintain archive of materials lost and withdrawn, whether replaced or not, for use in reinstatements when found/returned at a later date
    g. Maintain statistics on all phases of inventory system and generate reports for management

K. CIRCULATION BACKUP
1. System must provide for micro-based circulation backup system, which allows check-in, check-out, shelf, and renew functions for periods when the main computer is down
2. Data collected during backup periods must be able to be automatically uploaded to online system, after which error reports are automatically generated showing:
    a. Patron identifiers for whom no record is on file, and the items they checked out
    b. Item identifiers for which no record in on file and which patron checked them out
    c. Any problems encountered in uploading transactions
    d. An absolute detailed list of transactions the backup system recorded, including patron identifiers, item identifiers, due dates assigned, and any other information the system applied to these transactions
3. Must allow for separate backup parameters for each circulation controlling location

L. CREATE REPORTS

1. Create reports as determined by system manager, such as circulation by call number or circulation by status, and holdings by date range, call number range, holding library and by all circulation group possibilities
2. System manager must have access to all functions
3. Allow compilation jobs to be input for completion at a later date
4. Output of reports and notices independent of their compilation (on demand)
5. Schedule recurring jobs on a weekly or monthly basis without rekeying
6. Job schedule can be edited to add, delete, amend jobs
7. Report circulation and in-building use of materials by patron category, by material type, by collection or holding library, by branch by a user selected date range, and by call number sequence
8. "View Reports" option available to staff
9. Batch file searching/reports can be run at specified delayed time

M. CALENDAR FUNCTIONS

1. Calendar of up to five years for library hours
2. Ability to add, delete, edit calendars
3. Transfer calendars from live to training database
4. Must support multiple calendars
5. Must be able to set dates beyond 1999
6. Able to set constants
7. View calendar online function with window
8. Ability to window more than one calendar simultaneously and edit at that point

VIII. **RESERVE SYSTEM** - includes all circulation functions and parameters as well as following:

A. RESERVE LISTS

1. List by faculty member/class
2. Able to compare today's reserve list to last one run and produce pages where any change has been made

B. MANAGEMENT FUNCTIONS

1. Must have these functions: add, pull, edit, delete, print pull list (sorted by holding location)
2. Must generate reports as defined by local administrator such as lists by course and by instructor
3. Global removal of one course list with single command without having to wand each book
4. Able to remove item from reserve by item identifiers or faculty name without having to know both
5. Able to save reserve list and reactivate the entire list at a later time
6. Creation of pull list for retrieving items on save list
    a. Pull must say when, for whom
    b. Pull list does not need to be cancelled when put on reserve
7. Allow materials to be on reserve for more than one instructor and more than one class
8. Must identify instructors by name as well as barcode number
9. Allow materials not owned by library to be entered including personal copies of items owned by the library
10. Must be able to add items to reserve for departments

11. Must have permanent reserve category

C. LOCATIONS WITHIN RESERVE
   1. Allow for additional sublocations to be given such as open reserve, truck, etc.

IX. CATALOGING

A. INTERFACE WITH OCLC
   1. Accommodates OCLC Microenhancer Plus
   2. Accommodates OCLC ILL Microenhancer

B. FULL ALA CHARACTER SET

C. SUPPORT ALL MARC FORMATS

D. DATA ENTRY from keyboard, tapes, or disks
   1. Allow batch file bib entries created offline to be uploaded
   2. Would not filter all records to match with MARC records on initial tape load
   3. Allow keystroke replication of information for same field, record to record and item to item for all MARC field tags (set constant data field)
   4. Workforms, full and brief, for all formats with system prompts must be provided
   5. Work with variety of terminals; currently using ADM11 terminals
   6. Bib and Authority record MARC exported from OCLC
   7. Edit any field in record using cursor control keys to locate fields (full screen editor)

E. AUTHORITY CONTROL
   1. Create authority indexes based on bibliographic records that comprise the initial database for personal and corporate names (added entry and subject), series, and topical and geographic subject headings and their subdivisions
   2. Check authority controlled access points on records as added and flag new access points
   3. Permit addition of full cross-references to authority indexes
   4. Allow for more than one source of subject heading - LCSH, MESH, ERIC, etc.
      a. Indicate source of authority
   5. Include decision on series treatment as part of authority index
   6. Cancel authority file links to deleted bibliographic records
   7. Delete authority file records with no linked bibliographic records attached but prevent deletion of authority file record for any with bibliographic attached
   8. Store all deleted bibliographic records, item records, and authority records in a separate file accessible by staff
   9. Global and batch edits of authority records
      a. Subsequent old headings after a global change automatically changed to new ones, except names
   10. Scope notes available for subject authority records
   11. Method of deleting obsolete subheadings by global delete or replace
   12. Ability to move easily in authority file (i.e., use of a specific key to recall last record viewed)

13. Corrections can be made to sub-headings without locking up main heading
14. LCSH available either online or via CD interface

F. AUTHORITY REVIEW FILE
1. Review file defined by date and department/branch, user ID, or material format or any other locally chosen definition with option to change definition
2. Ability to window from author generating tag to full authority record
3. Full text of record shows in review file
4. Indexed by full contents of authority generating tag

G. BIBLIOGRAPHIC AND ITEM RECORDS
1. Create, modify or delete records online, individually or in batch
2. Upload, download, edit records
    a. Able to download bib records from OCLC and other bibliogaphic utilities
    b. Automatically generate item records with the 049 used to determine location and the 949 tag used to determine barcode number
    c. Bib records linked to authority control
    d. Allow batch and global updates of records
    e. Able to change status from "cataloged" to "check shelf" with easy command, batch update, or by wanding barcode
3. Full screen editor
    a. Able to backtrack in multiple screen records
4. Cut and paste capability
5. Windowing capability
6. Online workform for original cataloging
7. Automatic check for and merge of duplicate records
8. Create review files
    a. Create separate review files for duplicate records including all new/edited records and added/edited item records
    b. Be able to establish separately named review files
    c. Ability to edit while in any review file
    d. Review file defined by date and department/branch, user ID, or material format or any other locally chosen definition with option to change definition
    e. Non-interactive bib tape loads must generate a bibliographic review file separate from interactively downloaded records
    f. Reviewers ID is linked with records reviewed
9. Ability to generate locally added cross references
10. Save function
    a. File for temporary saves
    b. Not report to public catalog until complete
    c. Store last 20 entries without rekeying
11. Record validation for correct form, invalid subheadings, spacing, subfield correctness, etc.
12. No limit on characters in contents note field to accommodate long contents notes
13. No limit (or high ceiling) on the number of 600s or 700s
14. Can accept records with a high number of screens
15. Can accept multiples of any field including an equivalent of MTY
16. Must be able to support analytics (multiple bibs on single item)
17. Edit item record in any location unless checked out

H. LABELS - Format and print labels that conform to OCLC label display

I. REPORT FUNCTIONS
   1. Number cataloged by LC class, Dewey, SuDoc number, or locally assigned numbers
   2. Report on bibs and items added, edited, deleted by locally defined MTYa, by location and by user ID
   3. Must be available on at least a monthly, fiscal year, and fiscal year-to-date basis

X. ACQUISITIONS

A. FUND AND BUDGET
   1. Ability to allocate and reallocate budget
   2. Create, amend, close and carry over fund allocations
   3. Allow interface with a campus financial system
   4. Project future costs based on data from previous periods
   5. Allow for foreign currency
   6. Maintain accounting records for three years
   7. Allow public access to fund balance information
   8. Maintain both Accounts Receivable and Accounts Payable; Accounts Receivable must:
      a. Create invoices for services with option to print out on form designed by library; linked to name address directory as described in Section X.F. below
      b. Provide audit trail
      c. Prepare deposits
      d. Interface with Information Associates FRS/SIS program running under VMS on Dec VAX equipment
      e. Prepare locally designed reports

B. ORDERING
   1. Order records
      a. Library material order records include but not limited to: author, title, call number volume, edition, publisher information, vendor/source, price, copies, series, ISBN/ISSN, locations, order date, receipt date, invoice date, payment date, order number, invoice number, fund charged, comments
      b. Provide order forms for equipment, supplies, services
   2. Capable of sorting orders or payments by issuing body (e.g., memberships, blanket orders, etc.)
   3. Order records should be searchable/sortable, at a minimum, on: author, title, series, ISBN/ISSN, order number, order date, call number, vendor/source, invoice number, material order type, department or fund
   4. Order records should be searchable by Boolean and keyword searching
   5. Create single orders
   6. Create and maintain continuing or standing orders
   7. Create electronically transmissible orders; interface with BIP+; permit downloading of machine-readable records
      a. Able to import records from "same vendor" libraries
   8. Allow selective generation of orders as well as batch

9. Automatic cancelling of orders after designated time
    a. Records moved to review file for possible reorder
    b. If reordered, status changed to reordered and date
    c. If item not reordered, a discard report is sent to cataloging and the request sent to order-not-filled file
10. Allow for deletion of temporary or on-order records and transfer of data to permanent bibliographic record
    a. Status change from on order to in process and finally to check shelf status without rekeying
11. Immediate access to OPAC, BIP, from Acquisitions module
12. Orders linked to online catalog with "O" level records
    a. "O" replaced by full MARC with progressive status
13. Soft block on duplicates of material on order or material owned by library
    a. Duplicate detection of ISBN, OCLC number, LCCN, or title
    b. Option to window in duplicate record for decision on whether to continue order
    c. Ability to cancel, override, or send order to a review file when duplicate is detected

C. RECEIVING
1. Allow partial receipt, partial payment of multi-item orders

D. CLAIMING
1. Identify items for claims according to criteria established by library
2. Automatically generate claim letters
3. Generate mailing labels and position addresses on claim letters
4. Allow for manual initiation of a claim as well as system prompted claims; ability to defer claims
5. Produce electronically transmissible claims

E. INVOICE PAYMENT AND ACCOUNTING RECORD
1. Allow payment in advance or receipt without payment
2. Accommodate credits and returns
3. Allow loading and manipulation of machine-readable invoice information from vendors
4. Disencumber funds from cancelled orders automatically
5. Keep records 5 years
6. When item received, automatically liquidate and expend appropriate amounts and update summary reports

F. NAME/ADDRESS DIRECTORY OF PUBLISHERS, SUPPLIERS, AND CLIENTS which should be tied to the Acquisitions module
1. Name/address records should include: name, unit or department, order address, payment address, acct. or membership no., telephone no., ATTN field, comments
2. Automatically transfer name/address directory data to orders, claims, invoices, and correspondence

G. COLLECTION MANAGEMENT AND DEVELOPMENT
1. Include a desiderata file
2. Books changed to lost status after locally defined period moved to a reorder file
    a. When reordered, status changed to reordered and date
    b. If item not reordered, discard report sent to Cataloging and request sent to order-not-filled file

H. STORE and manipulate at least 15,000 order records
   1. Provide capability to store previous years' transactions

I. ORDERS NOT FILLED
   1. Unsuccessful orders, OP, etc. pulled into separate file which can be stored indefinitely and fully searchable as separate file
      a. Record allows for comments in item review file
      b. File restricted from public access

J. BINDING
   1. Supply online information on bindery status
      a. What was sent, when sent
      b. Allow for constant fields
      c. Cut and paste editing possible
      d. Establish and save templates for bindery treatment
   2. Possible to show more than one location on bindery record
   3. Interface with generic bindery routine
   4. Allow online check-in of bindery items
      a. By order identifiers
      b. Generate list of short-shipped items
      c. Automatically update status from bindery to available
      d. At check-in, parts collapsed and item record for volume windowed in for editing
      e. Rebinds produce item record
   5. Produce reports of items being bound, sortable by any field in bindery record

K. CREATE MANAGEMENT REPORTS
   1. Reports by request date, order date, receipt date payment date
   2. Reports of titles by status, supplier, fund
   3. Create budgetary reports of commitments and expenditures as month-to-month, year-to-year, year-to-date basis, fiscal-year-to-date, or user determined range
   4. Count orders by material type with number of volumes or pieces or price; option to change
   5. Reports available for 3 years

XI. SERIALS

A. STORE and manipulate 12,000 records

B. Maintain RECORDS for periodical, serial and series titles that include but are not limited to: Main entry, title (if not same as main entry), call no., treatment type (periodical, etc.), cataloging treatment, and at least five alternate title fields for subtitles, variant titles, binding titles, etc., ISBN/ISSN, linking entry fields for title changes, individual titles for pieces of monographic series, publisher, source of supply, frequency, status (ceased, etc.), indexable user-defined fields, order number and date, copies, notes, location, information, retention information, codes for subject, language, country of publication, UPC barcode number, receipt date, invoice number, comments

C. CHECK-IN RECORDS for at least 3 years with option to archive earlier years
   1. Choice to delete, edit or archive individual records

2. Check-in accessible at least by: Title (main entry), call no., alternate titles, ISSN, bar code number supplied by publisher on issue, user-defined fields, order number
3. Allow searching of check-in by Boolean and keyword
4. Accomodate all frequencies of titles (monthly, weekly, etc.) and changes in frequencies
5. Accomodate multiple copies
6. Predict check-in dates
7. Require 1 screen, 1-3 keystrokes to check-in
8. Permit orders and check-in of single issues, supplements or special issues, indexes, contents, etc.,

D. HOLDINGS DISPLAY, including latest received, next expected issue
1. Supports MARC format for holdings
2. Suppress "Avail from UMI" message in display
3. Option to change any part of record, what displays, messages

E. CLAIMS
1. Maintain name/address directory of publishers and suppliers similar to above in Acquisitions section. Must supply vendor information for electronic submission of claims

F. TRANSMISSION to union lists, vendors

G. REPORTS
1. Produce budget reports of commitments, expenditures on month-to-month, year-to-date, free balance, this year vs. last year, fiscal-year-to-date, or user-determined range
2. Reports of titles by subject area and fund
3. Allow for customized report writing by library